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INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)


Applicant's or agent's file reference 50892 WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/IB 02/00623	International filing date (day/month/year) 04.03.2002	Priority date (day/month/year) 04.03.2002
International Patent Classification (IPC) or both national classification and IPC H04Q7/32		
Applicant NOKIA CORPORATION et al.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 7 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 2 sheets.

- This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 05.08.2003	Date of completion of this report 28.06.2004
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**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/IB 02/00623**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-14 as originally filed

Claims, Numbers

1-9 received on 17.03.2004 with letter of 17.03.2004

Drawings, Sheets

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/B 02/00623**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-9
	No: Claims	
Inventive step (IS)	Yes: Claims	1-9
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/IB02/00623

Concerning Item I

Basis of the opinion

1. This preliminary examination report is based on **claims 1-9** filed with letter of 17.03.2004 which have been found to fulfil the requirements of Article 34(2)(b) PCT.
2. Reference is made to the following documents:
D1: USER'S GUIDE, [Online] XP002218693 Retrieved from the Internet:
<URL:http://www.telesupport.se/manualer/mobi I_man.htm> [retrieved on 2002-10-28]
D2: PATENT ABSTRACTS OF JAPAN vol. 1998, no. 02, 30 January 1998 (1998-01-30) & JP 09 261336 A (AIWA CO LTD), 3 October 1997
D3: EP-A-0 768 786 (NOKIA MOBILE PHONES LTD) 16 April 1997
D4: EP-A-0 453 089 (TECHNOPHONE LTD) 23 October 1991
D5: US-A-5 864 765 (BARVESTEN MATS O) 26 January 1999

Concerning Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Having regard to the documents cited in the International search report the subject-matter of **claims 1-9** appears to meet the requirements of Article 33(1) PCT in respect of **novelty, inventive step and industrial applicability**.
- 1.1 The invention according to **claim 1** defines a **method of changing the input states of an electronic device**, providing an **intermediate locked state** in addition to standard unlocked operational state and standard locked state.

The closest prior art is found to be document **D1**, which discloses an abstract of an user instruction manual that discloses a keypad lock feature to avoid accidental dialing, whereby certain functions, e.g. emergency calls, can still be made even if the keypad is locked. The keypad can be locked manually, by a certain key combination, or automatically: the keypad is locked if no keys are pressed for a period of 25 seconds.

If the device is locked and the user just wants to perform a quick operation, e.g. read an incoming SMS, he has to unlock the device by a certain key combination (e.g. in **D1** by pressing "LEFT" + "YES"), perform the operation, and lock the device again or wait for the lock timeout if the automatically locking is activated.

Departing from **D1**, the **problem** to be solved by the claimed invention could therefore be formulated as **how to provide an input lock mechanism** that can be operated faster than the unlocked key combination to perform a single quick task, and to ensure at the same time that a user does not forget to lock an electronic device after use to prevent the waste of resources and/or avoid accidental key inputs until the lock timeout occurs.

The solution according to **claim 1** defines that an **intermediate unlocked state** is provided, which is entered based on an **intermediate unlocking user input** which is different from the unlocking input required for entering the unlocked state. In this intermediate unlocked state the termination or cancellation of a user operation or an unexpected user input is detected, and in response to said detection, the locked state is entered.

Since **D1** does not disclose the features of an intermediate unlocked state and intermediate unlocking user input for entering this state, the subject-matter of **claim 1** is **novel** over the available prior art as required by Article 33(2) PCT.

The **advantage** of the solution of according to **claim 1** is that the user is allowed to perform certain functions without "unlocking" the device, so that the user has not to remember to lock it again after termination of his action, this preventing resource wasting and accidental key inputs.

Neither **D1** nor the remaining prior art discloses or suggests the consideration of an **intermediate unlocking state** and **intermediate unlocking user input** being different from the input needed for unlocking the device, as defined in **claim 1**. Moreover, the method as defined in **claim 1** is considered to define, for a person skilled in the art, an inventive solution to the above formulated problem, since the described novel method steps are non-obvious when departing from the available prior art and common knowledge in this technical field.

As a consequence, the subject-matter of **claim 1** is considered **inventive** as

required by Article 33(3) PCT.

- 1.2 The same reasoning as for **claim 1** applies to **independent claims 5, 6 and 7**, which respectively define a **computer program, computer program product and a mobile electronic device** for carrying out the **method** according to **claim 1**. As a consequence, the subject-matter of **claims 5, 6 and 7** is also **inventive** as required by Article 33(3) PCT.
- 1.3 **Claims 2-4 and 8-9** are dependent on **claims 1 and 7** respectively and as such also meet the requirements of the PCT with respect to **novelty and inventive step** (Article 33(2),(3) PCT).
- 1.4 The invention as defined by **claims 1-9** is obviously **industrially applicable** (Article 33(4) PCT).
2. Notwithstanding the positive opinion on the **novelty, inventive step and industrial applicability** of the present **claims 1-9**, the application does not meet the requirements of Article 6 PCT, because **claims 1 and 7** are not clear.

Independent claims 1 and 7 do not meet the requirements of Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the **technical features essential to the definition of the invention** (Guidelines, Section IV, Chapter III-4.3).

It is clear from the description on page 2, lines 33-37, that *the keypad is intermediately unlocked or cleared for user input by an intermediate unlocking input, e.g. a certain key combination, and then there is at least one or there are some predefined user input steps that can be performed. After termination or cancellation of such operation, the input means is automatically re-locked again.*

This implies first that the invention provides an **intermediate unlocked state in which only a limited operational input is possible** (cf. also page 3, lines 4-5). This feature is however not defined in **claim 1** but in **claim 2**.

Furthermore, the description passages cited above also imply that the

intermediate unlocked state is entered when the device is in the **locked state**. This feature is however not defined in the claim, rather it could be interpreted from the wording of the claim that the device can also enter the **intermediate unlocked state** when being in the **unlocked state**.

3. Furthermore, the following formal comments and/or objections are also raised with regard to the present filed documents:
 - 3.1 The **description** should have been brought in **conformity with the amended claims** (Rule 5.1(a)(iii) PCT). This applies in particular to the following parts of the description: page 5, lines 3-5; page 6, lines 15-19; page 6, line 33 - page 7, line 2; page 7, lines 4-21 and 23-27.
 - 3.2 According to the requirements of Rule 5.1(a)(ii) PCT, the **relevant background art** disclosed in the cited prior art documents should have been mentioned in the description.

Application number: PCT/IB 02/00623
Applicant: Nokia Corporation et al.
Date:

March 17, 2004

New Claims

1. Method of changing the input states of an electronic device, the device comprising input means and being capable of carrying out user operations, the input states comprising a locked state (2), wherein the use of the input means is significantly restricted, and an unlocked state, wherein the use of the input means is not restricted, the locked state (2) being enterable by a locking input, and the unlocked state being enterable by an unlocking input, characterized in that the input states further comprise an intermediate unlocked state (12); which method comprises:
 - entering said intermediate unlocked state (12) based on an intermediate unlocking user input which is different from the unlocking input required for entering the unlocked state;
 - detecting the termination of a user operation in said intermediate unlocked state (12), the user operation being other than said locking input and being one of the group: completing the user operation, cancelling the user operation, and detecting an unexpected user input; and
 - entering said locked state (2), in response to said detection.
2. Method according to claim 1, wherein the user operations that can be carried out in the intermediate unlocked state (12) are restricted to a subgroup of the user operations that can be carried out in the unlocked state.
3. Method according to anyone of the preceding claims, wherein said detection of termination of the user operation is defined by a predetermined number of input operations.
4. Method according to anyone of the preceding claims, wherein said detection of termination of the user operation is time related.
5. Computer program for locking of an electronic device from an intermediate unlocked

state (12), comprising program code means for carrying out the steps of anyone of claims 1 to 4 when said program is run on an electronic device.

6. Computer program product comprising program code means stored on a computer readable medium for carrying out the method of anyone of claims 1 to 4 when said program product is run on an electronic device.
7. Mobile electronic device, having input means and different user input states, the input states comprising a locked state (2), where the use of the input means is significantly restricted, and an unlocked state, where the use of the input means is not restricted, said locked state (2) being enterable by a locking input, and said unlocked state being enterable by an unlocking input, characterised in that,
 - said input states further comprise an intermediate unlocked state (12), and in that, the mobile electronic device comprises:
 - means adapted to enter the intermediate unlocked state (12) based on an intermediate unlocking user input which is different from the unlocking input required for entering the unlocked state;
 - means adapted for detecting the termination of a user operation in said intermediate unlocked state (12), the user operation being other than said locking input and being one of the group: completing the user operation, cancelling the user operation, and detecting an unexpected user input; and
 - means adapted to enter said locked state (2) in response to said detection.
8. Mobile electronic device according to claim 7, further comprising a memory to store locking, unlocking and intermediate unlocking inputs.
9. Mobile electronic device according to claim 7 or 8, further comprising a timer.

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